

Internet Technology and Lifelong Learning

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Foreword

Internet Technology and Lifelong Learning was produced in 2004 as part of a programme of online courses known as DEALL (*Distance Education about Lifelong Learning*). The DEALL programme was the work of a consortium of institutions from Austria, the Czech Republic, England, Finland, Spain and Wales, supported financially by the Socrates (Grundtvig) initiative of the European Commission. Intended for professionals involved in any way with the management, design and delivery of lifelong learning, a total of eleven courses were produced, namely:

Independent Study for Lifelong Learning
Practices and Procedures in Lifelong Learning
Methods, Materials and Media in Distance Learning
New Challenges for Trainers: the use of new technologies in adult education
Internet Technology and Lifelong Learning
Reflecting on Practice in Lifelong Learning
Marketing in Lifelong Learning
European Policy for the Education and Training of Adults
Financial Management Techniques for Lifelong Learning Institutions
Quality in E-Learning
Guidance in Lifelong Learning

The field of "e-learning" developed rapidly over the subsequent years, to such an extent that the DEALL programme soon became out of date. *Internet Technology and Lifelong Learning* is released here now, as a portable document rather than an online system, not only because of any value that it might still have as a course of study but, perhaps more importantly, as a archived record of how the field stood in 2004. Therefore, no attempt has been made to update the content in any way, and many of the hyperlinks are now "dead".

It is hoped that it may be of some interest to producers of new courses in this field, or to future historians of technology, or simply to educators who may like to be reminded of how different things were in 2004.

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July 2009

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Learning Outcomes

- (1) A deeper understanding of lifelong learning and outreach, and an appreciation of the ideas and ideals which underpin them, providing a conceptual framework for engaging with the academic and political discourses which surround lifelong learning today;
- (2) up-to-date knowledge about current practice in internet-based lifelong learning and about its likely future development; and
- (3) experience with some existing systems and software environments and an ability to make informed decisions about learning platforms and how they can best be used.

Summary

This course is about two things which are nowadays deeply intertwined: internet technology and lifelong learning. We shall explore internet technology insofar as it has become an unavoidable part of the lifelong learning landscape, and we shall explore lifelong learning insofar as it has been energised and transfigured by the possibilities which internet technology now offers.

In some respects this course is theoretical: it deals with the meaning of lifelong learning, its ethos and ideals, and the problems of terminology and academic language. It mentions the traditions of adult education and some of the more recent innovative approaches that have emerged in recent years coinciding with the emergence of new telecommunications technology. The course explores the concept of "outreach", and considers the various forms that it can take.

But this course is also intended to be of direct practical value, examining in detail the opportunities offered by internet technology to all those who are involved with lifelong learning - whether as teachers, or as learners, or as managers or administrators of any kind. However, this is not a course in computer science and we aim to provide you with no more technical knowledge than you will need in order to work confidently with the technology and to make decisions about how to use it to support lifelong learning.

Author

Martin Counihan is a scientist with wide experience of many different disciplines including Information Technology. For many years he has been responsible for providing special courses on behalf of the University of Southampton for the public and for a variety of organisations. He has taken part in numerous research and development projects on lifelong learning and e-learning, and is a director of the educational consultancy Maine Learning Ltd.

1. Introduction

Learning objectives for this section:

- *To investigate practical organisational and educational aspects of internet-based distance learning relevant to this module.*
- *To appreciate technical and personal factors which may hinder learning.*

Three "learning outcomes" have been listed for this course. Why should it be a good idea to present a list like that at the start of a course? Can you think of a fourth outcome that you would like to add to the list?

✉ *Send your reply as an email to the tutor.*

In this introductory section of the course we will look briefly at the following:

<i>Contents</i>	1.1	Personal Requirements
	1.2	Disability
	1.3	Technical Requirements
	1.4	Flexibility and Interactivity
	1.5	External Resources
	1.6	Assessment
	1.7	Accreditation and APL
	1.8	Evaluation

1.1 Personal Requirements

There are no specific academic prerequisites for *Internet Technology and Lifelong Learning*, and you are not expected to have a deep technical understanding of the internet. However, you will not find it easy to complete the course successfully if you are unwilling to involve yourself with the internet and with its literature. If ever you feel intimidated by technical jargon or by the speed of technical innovation, remember that you are not alone - *everybody* is in the same situation. "Future shock" affects us all.

Because of the nature of the internet, you may find it hard to complete this course speedily if you have difficulty with English. Apart from the course material itself, a high proportion of the online academic literature, and many of the websites which may be taken as examples of internet-based lifelong learning, are in English. Nevertheless, it should not be necessary for you to be fluent in English. Please let the tutor know what your first language is: this course (or, at least, the communication which will take place

between you and your tutor) may be available in other European languages besides English.

Write a 200-word reflection on the likely relationship between your first language and internet-mediated lifelong learning in the future.

At this stage there is no need to carry out any research or reading: just base your reflection on what you know and feel already.

☒ *Send your reflection as a Word file attached to an email to the tutor.*

1.2 Disability

You may be affected by a disability which could affect your ability to follow this course effectively. If so, you are invited to inform the tutor, although you are entitled to keep it confidential if you prefer. However, coping with disability, not only on one's own part but also on the part of other people, is a very important aspect of lifelong learning in general, and it is especially important to a student of *Internet Technology and Lifelong Learning* because the internet itself is often perceived as a "solution" to problems of disability.

So, it would be advisable for you to develop sensitivity towards disabilities and learning difficulties, and to be aware - at least in broad terms - of the technical methods which may be used to circumvent the effects of human disability. These methods are collectively known as "assistive technology".

There are at least three aspects of disability which you should think about:

- As a learner, are you affected by a disability on your own part? If so, do you believe that there are adequate *technical* facilities available to enable you to overcome your disability, so that you will be on a "level playing field" with other course participants?
- What are the legal duties and responsibilities of an educational institution concerning disabilities on the part of prospective or actual students? What are the legal duties and responsibilities of an employer towards an employee who is prevented by a disability from taking part in professional development and training activities that are available for all the other employees?
- To what extent, and in what ways precisely, might *internet-based* lifelong learning be more readily accessible to disabled participants than any other kind of lifelong learning? Should the internet have a special role in providing educational outreach to disabled people?

Questions such as those above do not need to be answered immediately. They may be raised again later in this course, or in other DEALL courses, or through the DEALL email discussion list. You could choose to examine issues such as this later on in the reflective practice course (10/UK), or perhaps as part of a Master's dissertation.

Does your own organisation have a policy about providing access to learning resources for people with disabilities? If you don't know, your first task in this course should be to find out.

✉ *Send your findings, expressed within 200 words, to the tutor.*

1.3 Technical Requirements

Internet Technology and Lifelong Learning is a course about how internet technology is used to deliver lifelong learning. To study this effectively, you will need to draw information from the internet and look into some of the distance learning services that are already being provided online. It is therefore essential that you should be able to use the internet efficiently, and for this a broadband internet connection is very important. In fact, a broadband connection is essential for any organisation which intends to be seriously involved as a provider of internet-mediated lifelong learning. So, even if you do not have broadband access to the internet in your own home, it is to be expected that you will have a suitable connection at your place of work or at your local university.

An up-to-date version of Internet Explorer is the recommended browser for this course.

At present, fast ("broadband") internet access at an affordable cost is not universally available to the public throughout Europe. On the contrary, availability is very patchy and will remain so for some time. A slow (narrowband) connection, however, can be made through any telephone line or from a mobile phone. In view of this situation, is it reasonable to require online course participants to have a broadband connection? In your own country, how widely available is broadband internet access? You may find it hard to answer these questions at this point, but try to give a brief answer on the strength of your present knowledge.

✉ *Answer by sending an email to the tutor.*

1.4 *Flexibility and Interactivity*

This course has been designed in a particular way which could be characterised by terms such as

- flexible study,
- "just-in-time" learning, and
- learning at a "time, place and pace" of your own choosing.

However, you should be aware that choices have to be made when the internet is used to support lifelong learning, and features such as those listed above may have to be traded off against other possible features such as

- collaborative learning,
- on-line seminars,
- videoconferencing, and
- group projects.

The point is that *individual* freedom and flexibility may be incompatible with learning co-operatively as a member of a *group*. Since community activity is often regarded as a crucial element in maintaining enthusiasm and morale among learners, but personal autonomy should undoubtedly be respected as far as possible, it is not surprising that a tension exists between these two ideals in lifelong learning. Of course, choices have to be made between *collective* and *individual* activities in all kinds of education, but it seems that internet technology accentuates the tension.

Most courses of lifelong learning represent a compromise between the *collective* and the *individual*. This one veers towards the individual: it has a flexible timetable, you may start it at whatever time of year you wish, and you do not have to work at any particular rate (although we cannot guarantee to support your study indefinitely into the future). However, we hope to provide some collective learning activities for participants in this course:

- a moderated email discussion list, and
- an annual weekend conference

but these are facilities for the whole DEALL learning community, and not just those pursuing *Internet Technology and Lifelong Learning* in particular.

Try to list half-a-dozen practical reasons why it might be convenient for an institution providing lifelong learning to favour **flexible participation by individuals**. Take your time....

...and now, can you list half-a-dozen reasons why, by contrast, it might be convenient for them to focus on **group participation**?

When you have finished, look at Appendix 1

1.5 External Resources

This course should not be regarded as a self-contained set of resources sufficient for you to learn all about the subject. It is more accurate to regard it as a gateway, connecting you to a host of external resources. In a few cases, those resources are books which you could buy or borrow, but mostly they which are electronic resources of one kind or another such as articles published electronically in online journals, reference material, conference reports, websites exemplifying distance learning practice, and the websites of organisations and interest groups.

Here is just one example of an online academic journal relevant to the subject:

The International Review of Research in Open and Distance Learning

but there are many others which are equally well worth consulting. You will find it useful to explore the full range of online resources available, and to do this you may find it helpful to consult a university library website. The University of Southampton is a typical example:

Electronic Resources through the University of Southampton

but it must be emphasised that this is just one example - you may already be associated with another particular university, in which case their library should be your first port of call. Note that electronic journals are not necessarily freely accessible - many are password-protected, and can be consulted only if a subscription has been paid by your organisation. Nor are library websites always freely accessible. Because of the difficulties involved, in this course we will try to avoid referring to electronic journals which are not freely accessible.

Although many external resources are referred to in this course, in a sense the most important resources for you will be the ones you find for yourself. Using appropriate search tools, you should seek out the most relevant and up-to-date information on whatever topics you might investigate during the course.

1.6 Assessment

Formative continuous assessment is employed in this course to ensure that participants are successfully achieving their objectives.

Assessment is often considered to be problematic in the context of lifelong learning. Mature adult learners are likely to be inconvenienced and discomfited by the prospect of traditional-style formal examinations which will remind them of a stage in life that they thought was behind them. Other methods of assessment, different from those used with young full-time students, are often thought to be more appropriate in the lifelong learning context. In distance learning, particularly, it may be impractical to insist on forms of assessment which require the participant's personal presence at the institution. However, assessment by written coursework alone raises the spectre of plagiarism - how does the institution know who really did the work? These problems can be

magnified if the internet is used as the medium of communication, and if handwriting or voice cannot be used to help identify the participant.

In this course, assessment is carried out through the information produced by each participant in the form of emails and other electronic files. *Internet Technology and Lifelong Learning* is a fast-moving field in which there are very few experts, so we take the view that plagiarism is unlikely and would not be difficult to detect. Moreover, the process of assessment is separated from that of awarding academic credit - the latter process (depending on the regulations of a university or other awarding institution) may involve a more rigorous identification of the participant and a face-to-face meeting.

1.7 Accreditation and APL

With more and more institutions providing distance learning courses on a national, international or global basis, there is a serious danger that learners will be confused by the variety of different accreditation systems that exist and may be caught out by the fact that it is still usually rather difficult to transfer academic credit from one institution to another. To minimise these problems, and to make it easier for courses to be marketed internationally, various efforts are being made to simplify matters. For example, some groups of universities have formed themselves into consortia. The Open University of Finland is an example of an emerging national consortium; other consortia are being developed at international levels.

1.8 Evaluation

"Evaluation" is the process by which a course, or a programme of courses, is monitored to see if it serves its purposes effectively. In particular, evaluation is used to see if participants are satisfied and to identify ways in which courses could be altered and enhanced so as to increase learner satisfaction. But evaluation need not only be for the sake of learners: it may also be used to ensure that employers or professional accrediting bodies are satisfied with a course.

What is your organisation's usual procedure concerning **either** assessment **or** accreditation and APL **or** evaluation? Focus specifically on the context of lifelong learning. What are likely to be the main problems arising (in assessment **or** accreditation/APL **or** evaluation) for internet-mediated distance learning?

✉ Try to answer in about 200 words and email your findings to the tutor.

Summary:

- *We have reviewed some of the linguistic, personal, social and technical factors which may impede internet-based distance learning, or which may require a learner to work in a particular way which might not have been anticipated by the course provider.*
- *Institutions are often subject to legal constraints or to self-imposed policies concerning the equal treatment of students, and you should now be aware of how these factors may affect you as a learner or as a teacher.*
- *Accreditation, assessment and evaluation are crucial aspects of any formal programme of learning, and you should have reflected on the special arrangements that they may entail in the context of distance learning.*

2. Introducing Internet Technology

Learning objectives for this section:

- *To understand, at a practical non-specialist level, the key features of internet technology.*
- *To explore the question of what sort of technology needs to be understood and/or acquired by students engaged in distance learning.*

Do you need to study this section?

If you are already familiar with internet technology, you may find it unnecessary to work through this section of the course in detail. In that case, feel free to “skim” it.

Do, however, carry out all the tasks requested – your responses will be very welcome and will be assessed.

<i>Contents</i>	2.1	The Internet
	2.2	Bandwidth
	2.3	Clients and Servers
	2.4	Hard Technology
	2.5	Soft Technology
	2.6	A Forward Look

2.1 The Internet

The internet is a system of telecommunication between computers. It enables information to be transferred between computers large and small all around the globe.

According to the sort of information being transferred, the internet transfers information through different “protocols”. Some of the protocols are rather specialised and need hardly concern us – such as the file transfer protocol (ftp) and the wireless applications protocol (wap). There are also special protocols for sending and receiving email. But the best-known protocol, and the one that carries the most internet traffic, is the hypertext transfer protocol (http) which is used to transfer the data of the “world wide web”. The hypertext transfer protocol is usually invoked by a user at a personal computer (PC) who requests a certain “web page” or “web site” from another computer. The request is made by specifying the location of the desired web page in the address box which can be found near the top of the screen when “browser” software is running on the PC. A browser is a programme such as Microsoft Internet Explorer or Netscape Navigator. The location of the desired web page is specified by the string of characters which usually (but not invariably) starts with **http://www**.

We now live in a world where internet-connected (or “networked”) PC’s are commonplace on the desks of administrative and professional workers of all kinds, in educational establishments at all levels, and in front of students. They are also common in people’s homes. There are still great variations in the accessibility of the internet, with gross inequalities between rich and poor nations, between the employed and the non-employed, between urban and rural communities, and so on; but in Europe we have reached a point where it is reasonable for educators to work on the assumption that there are large constituencies of potential students with access to the internet – and not to worry about those who are not. In many parts of Europe, internet access costs less than the typical fee for a professional development course, so it would be perverse for people to pay for the one but to balk at the other. But, at the same time, there are many impoverished communities and economically disadvantaged groups for whom internet access is still prohibitively expensive, a fact which has led many social commentators to fear that the internet is exacerbating social divisions rather than bridging them, and is creating an “information-poor” underclass.

On balance, does internet technology include or exclude people? Do you think it is reasonable to assume that your students have good access to the internet? (This is a very large question on which a great deal has been written. Here, just give a very brief answer based on your existing personal knowledge. There is no need to research this topic.)

✉ Answer, please, within 200 words, to the tutor.

It is not our purpose here to explore the practical aspects of online tutoring and instructional design: that will be dealt with to some extent in other DEALL modules. However, as supplementary background reading, you may well find it useful to examine the following texts:



Dugglesby, Julia, *How to be an Online Tutor*, Gower Publishing, Aldershot, 2000.

Lee, W. W. and Owens, Diana L., *Multimedia-Based Instructional Design : Computer-Based Training, Web-Based Training, and Distance Learning*, Jossey-Bass (Wiley), Indianapolis, 2000.

Horton, William, *Designing Web-Based Training: How to teach anyone anything anywhere anytime*, Wiley, New York, 2000.

These texts are recommended *not* because they are important for you to follow this course successfully, but because they deal with topics which are not central to this course and are therefore not otherwise covered here.

2.2 Bandwidth

Some internet connections are better than others. Ordinary telephone lines can usually be used to provide low-bandwidth (“narrowband”) access to the internet, adequate for ordinary email and for simple web pages but infuriatingly slow for complicated web pages with “multimedia” such as high-resolution images and sound. Progressive website designers, including those involved with e-learning, naturally like to exploit their medium to the full, with the result that the narrowband user is now rather poorly served. Fast high-bandwidth (“broadband”) internet connections are generally more expensive and more limited in their geographical availability than narrowband connections.

Bandwidth considerations are of great importance when it comes to planning any system of internet-mediated education. Any computer system, no matter how powerful and sophisticated, will grind to a halt if sufficient students simultaneously seek access to websites featuring, say, high-resolution film clips. Compromises have to be made.

2.3 Clients and Servers

It was mentioned earlier that the internet is a system of telecommunication between computers. However, not all computers have the same status within the internet. We may distinguish crudely between two broad classes of computers, “clients” and “servers”.

- | | |
|---------|---|
| Clients | <ul style="list-style-type: none">· are usually PCs or laptops, and are often owned personally by the user.· are often portable, and can be plugged into the internet in different locations or through a mobile phone· generally do not themselves have fixed internet addresses.· are used through “browsers” such as Internet Explorer.· can obtain (“download”) web pages from sites elsewhere on the internet, but are not themselves repositories of web pages. |
| Servers | <ul style="list-style-type: none">· store (“host”) web pages so that they can be provided on demand to anyone on the internet.· have fixed internet addresses.· are switched on all the time.· use special server software, including perhaps specialised languages and database programs to interact with a client through active web pages.· are hardly ever owned personally by an individual user. |

It is assumed that you are reading this through a client computer attached to the internet. What sort of computer is it? What browser are you using? Do you have a personal web page? Does your organisation have a web page? If so, who owns the servers on which those web pages are stored? What are the web addresses (URLs) of the pages?

✉ *Send concise factual replies, please, to the tutor.*

Large organisations, such as universities, usually run their own servers. A small company, or an individual, is more likely to use a server owned by a specialised company known as an Information Service Provider (ISP). When you download a web page you are probably using two servers: (a) the server provided by your ISP (or your employer, or your university), which acts as your gateway into the wider internet, and (b) the remote server on which the web page was stored. You are also, of course, using the client computer in front of which you are sitting. And in fact it is all still more complicated than that, because behind the scenes you will also be making use of other computers such as the “domain name servers” which interpret the addresses which you submit when you call for web pages. On top of that, you may also be using one or more communications satellites. Using the internet therefore involves a great deal of technological infrastructure which the average user is mostly unaware of.

Domain names were briefly mentioned above. They are closely related to web page addresses or URLs (Uniform Resource Locators) and to email addresses. You should try to understand what these terms refer to and how internet addresses are constructed. There is no need for us to go into details here: there is plenty of information about this kind of thing already provided on the web. Throughout this course, you should not hesitate to use the internet itself as a source of information about anything. For example, there is an online dictionary of computing [here](#). To find websites of any kind, the search engine [Google](#) is recommended. Google is probably the best and most widely used internet search engine in the world, but it is not the only one: see, for example, [Teoma](#).

Use the resources at your disposal to find out how internet addresses are formed. What, precisely, is a “domain name”? What are the implications of suffixes such as .com, .net, .us, .ac, .at, .info and .html?

✉ *Send your reply to the tutor.*

We are considering internet technology, and before we go any further it is important to understand that the word “technology” is commonly used to describe not only hardware – physical devices such as satellites and computers and cables – but also software. Software includes computer operating systems, programs, programming languages, and the coding systems used to store and transmit information. The hypertext transfer protocol, for example, could be described as a “technology”. In what follows, we will first discuss “hard” technology (the physical equipment) and then “soft” technology.

2.4 *Hard Technology*

This subsection will be short and easy, since it is not necessary for us to explore the physical technology of the internet in any detail and the most important aspects of it (as far as lifelong learning is concerned) have already been mentioned.

Bandwidth, i.e. the speed of the connection, is probably the single most crucial hardware factor restricting the expansion of internet-mediated lifelong learning in Europe. It is far more of a constraint than, say, the storage capacities of hard disks or the sizes of monitors. Try this [speed test](#). (And others are [here](#) and [here](#).)

It seems unlikely that there will be revolutionary developments in the hardware used to support online lifelong learning during the next few years. We seem to have reached a temporary technological plateau. One thing that may change is that webcams will become much more common, so that any PC can be used as a videophone or for videoconferencing: at present, videoconferencing exists for the most part as a rather jaded and obsolescent aspect of television technology. Another future development will be through wireless devices supporting mobile computing so that people will be able to gain access to learning resources from wherever they happen to be, using portable devices such as mobile phones. This is sometimes called “m-learning”, and you can get the flavour of it by looking at the web site of the [m-learning forum](#).

2.5 *Soft Technology*

The internet is driven by a complex and fast-developing range of software technologies. We will consider in turn operating systems, how web pages are coded, “client-side” software and “server-side” software.

2.5.1 *Operating systems*

An “operating system” (OS) is a piece of software through which you may control practically all aspects of a computer’s operation and through which your other programs are run. By itself, an OS does nothing, but in a sense it does everything, because it is the environment with which you must interact with the machine in order to do anything at all.

Commonly-used operating systems are the various versions of Windows (produced by Microsoft), Unix and Linux. You are probably using a version of Windows on your personal computer as you read this; but it is quite likely that this page came to your computer from another computer (the server) running Unix or Linux.

To complicate matters, a computer may contain more than one operating system. For example, this text was originally written on a computer which contained a version of Windows 2000 and also two versions of Windows XP. If more than one OS is installed on a computer, the user may be able to choose which one to use when the machine is initially switched on.

It is important that you should understand what operating systems are, but the details of them will be practically irrelevant from the point of view of this course. This is because the internet is generally used through client-side browser software versions of which are available to run under more or less any of the commonly used operating systems. Server-side software tends to be more restricted by the OS, but by and large any modern computer can be made to run any piece of modern e-learning software.

2.5.2 How web pages are coded

A webpage may contain text in many styles, embellished with images and sound. It may also interact with the user, for example by allowing a form to be filled in and submitted online. A web page may offer the user many different opportunities for using mouse-clicks to jump from one part of the page to another, or to jump (“hyperlink”) to a completely different page. How is all this represented?

The answer is that *to a first approximation* web pages are coded in a language known as HTML (*Hypertext Markup Language*). The original producer of a web page can write a file (with a name usually ending in the suffix .html or .htm) which will specify the contents of the page in great detail using the HTML language – the text can be spelt out, fonts and colours declared, the positions and sizes of images specified, and so on. Images and sounds are not given purely through the HTML file but are supplied in supplementary graphics files or sound files, but the names and addresses of those supplementary files will be specified at the appropriate point within the page’s HTML file.

This is not a course on HTML, and it would be inappropriate to go into detail here about the structure of the language. It is not a difficult skill, but it takes a certain amount of time and practice to write HTML files confidently. It also requires using a utility program to actually do the writing of the HTML file. It is not usually a good idea to use Word to write HTML files. In Windows, the standard notepad utility is adequate, but there are more sophisticated editing tools. For professionals who have to work directly with the internet, producing or editing online course materials, it is almost essential to be familiar with HTML, but if your function is managerial or administrative then you may not need to know any HTML at all.

Try to learn at least a little HTML if you have not already done so. There are plenty of web-based resources to help you. For example, here is an [HTML tutorial](#) for children.

Whenever you look at a site like that – and we will look at several during this course - try to evaluate it. Reflect on all its aspects, and be prepared to criticise it constructively as an example of internet-based learning.

What is the best thing, and the worst thing, about the HTML tutorial linked to above?

✉ *Please send your reply to the tutor. You need not write more than 200 words.*

What exactly happens to an HTML file? The answer is that the file will be stored on a computer (the server) under the control of the person who produced the web page; then a copy will be transmitted over the internet to the computer (the client) of any person who calls for the page. On the client computer, a programme called a *browser* is used both to call for a webpage and to interpret the HTML file received as a result. When the HTML file is interpreted, the browser can display the information on the computer screen so that it appears as the designer of the web page intended.

However, it is not quite as simple as that. For one thing, it is possible to produce HTML files without personally knowing the HTML language, because there are many easy-to-use programs which will do it for you. Word, for example, can be used to save a document in HTML format – in other words, a document composed with Word can be saved in HTML format, which means that if the file is subsequently summoned up by a browser it will be correctly displayed on the client's screen without Word having to be used again.

Dreamweaver is another program used to generate HTML files. The user can type in text and specify layout for the web page through a relatively easy-to-use graphical interface. Dreamweaver is mentioned elsewhere in this course where we review technical options for online lifelong learning.

A further complication is that HTML is not, in fact, adequate by itself for the production of complex state-of-the-art websites today. Nowadays it is considered to be a relatively primitive language, and there are extended versions of it which offer many more features. Also, languages such as Javascript can be embedded in an HTML file to achieve yet more interactivity. Here is a small example of how learning material can be made interactive in this way:



Click this face to change the font to Verdana



Click this face to change back to Times

2.5.3 Client-side software

The essential piece of software needed on a client computer in order to view web pages is the browser. But browsers nowadays are almost always enhanced by additional items of “plug-in” software or supplementary programs which will be automatically invoked if the downloaded data requires it. Examples are:

- Flash, RealPlayer, Quicktime and Windows Media Player, used to display moving images, special effects and/or sound.
- Javascript and Curl, allowing more complex programming to be downloaded from the server and executed by the client.
- Acrobat, for displaying documents downloaded in the Portable Document Format (PDF).

There are other programmes, too, which might be needed on the client computer. A learner or a teacher will probably need an email "client" to send and receive messages. The most commonly-used email system is Outlook Express, normally provided by Microsoft as part of a Windows installation, but there are others which many people prefer, such as Eudora. Not using Outlook Express can, in some circumstances, reduce the danger of transmitting computer viruses.

A different approach to the question of email is to use a "webmail" system by which the client sends and receives emails through a webpage - Yahoo! Is one of the best-known webmail providers, but there are numerous others. Webmail does not involve any special mail program on the client computer, and is fairly impervious to viruses unless the user consciously chooses to download a file. However, webmail alone is not usually recommended for professional use. To complicate the situation, many ISPs provide webmail systems as well as standard mail servers for the same email account, so that the user will always have a choice between using an email client (such as Outlook Express) and simply looking at mail through a webpage. This facility can be particularly useful for anybody who has to use email through a variety of different computers in different places.

Formal learning, of course, almost invariably involves preparing and submitting written coursework. To do this, the learner's computer will need to be equipped with standard word-processing software such as Word. Depending on the subject being studied, other special software (such as image-manipulation or drawing software) may also be needed.

More advanced users, including those responsible for producing online learning resources, may well need special software to transfer files of all kinds between a client and a server, or to edit server-based files remotely. The standard for this kind of work is FTP and telnet software. However, the more sophisticated e-learning platforms (considered elsewhere in this course) generally allow this sort of task to be carried out very simply by non-specialists.

2.5.4 Server-side software

Little needs to be said about the software that is used on servers. However, when a sophisticated web page is downloaded, it will often be the case that some crucial computing will take place within the server just before the page is downloaded. These days, downloading a web page is not just a matter of passively downloading a pre-written file. The files stored on the server may contain special instructions ("scripts") in various languages. One of the most widely-used languages for this purpose is Perl; another is PHP. Note that these languages are interpreted, and the instructions are acted on, by the server and not by the client. The details of the web page transmitted to the client will be determined by the results of the server-side scripts - for example, a script could extract data from a database and incorporate it immediately into the web page. It is through server-side scripts that "active" web pages can be produced, interacting in unique ways with the individual clients - for example, by checking their passwords.

Again, it must be said that many lifelong learning professionals do not actually have to know anything about the kinds of software that support the internet. One reason is that sophisticated authoring tools, such as those developed by the Macromedia company, now exist to simplify the task of producing interactive multimedia web sites. Some of these are mentioned elsewhere in this course where we survey the technical options. Another reason is that e-learning "platforms" or "portals" are available which have comprehensive built-in facilities for interactivity: they, too, are considered elsewhere in the course.

2.6 A Forward Look

It was mentioned earlier that "it seems unlikely that there will be revolutionary developments in the hardware used to support online lifelong learning during the next few years. We seem to have reached a temporary technological plateau". Much the same is true of software. However, we can expect a steady, incremental improvement in the ease with which users can interact with the computer systems. At the moment even the easiest-to-use systems, ostensibly intended for use by people who have no technical expertise, in fact still require a high level of technical sophistication. But over the next few years, user interfaces will gradually but inevitably improve. (And by "users" we mean not only learners but - more to the point - administrators, course designers and teachers.) Languages like HTML and Java will still be there in the background, but the ordinary user will no longer need to know about them. Things will also get cheaper: hardware, software and internet connectivity have become significantly less expensive and/or more widely available even during the short time that this course has been under preparation.

So, although the e-learning systems used in (say) 2010 may do much the same as those used today, and may have the same sort of appearance, they will be used by much larger numbers of people (both as learners and as teachers) and online courses will have been produced much more straightforwardly and efficiently by people who are relatively untrained in information technology. We can hope that learners and teachers will be able to go back to being experts primarily in what really concerns them: the subject being studied, whether it be archaeology, accountancy or oriental art.

Do you agree? Is that really true? Or are we moving into a world in which expertise in information technology will for ever be a prerequisite for all high-level learning and teaching?

✉ *Send a reply to the tutor. Please write as much or as little as you wish!*

Summary:

- *The internet depends on a set of interconnected technologies involving hardware, software, and telecommunications. You should now understand at least a little about the character of the computer systems involved, the variety of computer programs that have to be used, and the practical consequences of choices of telecommunications systems (narrowband and broadband).*
- *We have considered how educational decisions and processes are conditioned by the technological circumstances.*
- *You should have a view about the likely direction in which internet technology is developing and what sort of technical skills will be needed by teachers and learners in the future.*

3. Lifelong Learning and Outreach

Learning objectives for this section:

- *To understand "lifelong learning" both as an educational philosophy and as a field of professional activity.*
- *To understand the different forms of educational outreach (social, geographical, professional and liberal) and to have an appreciation of their historical origins and ideological underpinnings.*

Lifelong learning is an enormous subject. As an activity, lifelong learning takes many different forms in different educational, professional, national and historical contexts. It can be analysed culturally, economically, technologically, politically and ideologically. It would be impossible for us to explore the whole subject here – indeed, all the DEALL course modules taken together only cover a limited selection of the field. What we will do, however, is to present an approach to the subject of lifelong learning bringing out some of the more interesting contemporary developments and debates which are particularly relevant to internet-mediated lifelong learning.

After introducing a few preliminary ideas, most of this section of the course will be devoted to an analysis of lifelong learning based on the concept of **outreach**.

<i>Contents</i>	3.1	What is Lifelong Learning?
	3.2	Outreach

3.1 What is Lifelong Learning?

The phrase “lifelong learning” has a contested meaning in the contemporary literature. It is a fashionable phrase, and fashionable things are often sought after and used by those who would bend them to attract support for their own various professional or ideological positions. Before long no doubt it will cease to be a fashionable phrase, and its meaning may cease to be disputed; but then no doubt some other terminology will arise in a welter of fresh debate. So we should not feel dismayed or confused by the plasticity of the term “lifelong learning”: the very uncertainty about its meaning serves us well by provoking some important questions.

A definition of lifelong learning has been given recently by the European Union: it can be seen here:

http://europa.eu.int/comm/education/policies/life/what_islife_en.html

3.1.1 Lifelong learning as a philosophy

Lifelong learning can be regarded as a *philosophy* of education based on the perception that education (or, more broadly, learning) takes place throughout the whole span of an individual's life. It may take place in different ways, in different contexts, and at different intensities, but learning as a rule is lifelong. That being so, we can see that an effective educational system would be one that instilled in people, during the early stages of their lives, the skills they need to be effective learners during the subsequent stages.

In some ways this is obvious: at school we teach children to read almost before anything else because they can then bring their literacy to bear on everything that follows. But there are other learning skills besides literacy, and it can be argued that any learning skill should be instilled as early as possible in the individual's life even at the cost of deferring some other part of the curriculum. And it should be taken into account that some skills – such as music or mathematics – seem to be easier to acquire earlier than later; while some information-rich subjects – such as history – seem easier for a mature person to absorb. The lifelong learning philosophy, therefore, could have some startling implications for school and university curricula if it were taken to its logical conclusion. In particular, it is sometimes taken to mean that school and university curricula should emphasise skills – and especially the skills helpful to learning – at the expense of concepts and facts, because once you are equipped with the right skills you will be able to pick up whatever concepts and facts you need whenever the occasion arises in later life. This opinion is reinforced by the way that factual knowledge seems to become quickly out of date in the fast-moving world in which we live.

“The skill of learning is more important than the learning of a fact”. Do you believe that?

✉ *Answer, please, to the tutor.*

Another feature of lifelong learning is that it must, of course, be genuinely accessible to people throughout their lives even though it is not compulsory. So, it is necessary to devise programmes in such a way that barriers to access are minimised if not eliminated. It is crucial that opportunities for lifelong learning should be organised as flexibly as possible to permit the participation of people who may already have busy lives and other responsibilities or who may be affected by disability or by financial or cultural constraints.

It is to be hoped that internet technology will help us to achieve greater flexibility and accessibility, and so bring the ideal of universal lifelong learning closer to reality.

Lifelong learning should be *learner-centred*. Education is sometimes regarded as a service to the local or national economy, or to the community in a collective sense. Courses leading to professional qualifications may be regarded as serving the interests of the profession, or of the profession's clients. Sometimes, courses are provided primarily for the sake of the teachers. In contrast, lifelong learning puts the spotlight on

the learner, taking the view that the learner's needs and interests should come first, and that institutions have a duty to provide support to learners. This is not to say that the other stakeholders (teachers, employers and so on) do not all have valid interests: but the interests and opinions of the learners themselves should be given much more weight than was customary in the past.

3.1.2 A little history

Lifelong learning is often regarded simply as a stage in education, namely that which encompasses the main part of an individual's life as a mature adult.

A young person's education goes through a number of familiar stages such as primary education, secondary education and higher education. Depending on the national system, there may be other stages with titles such as junior education, tertiary education and further education. As a rule, "higher education" describes the highest levels of academic attainment and refers to what is usually (but not invariably) done in universities. These stages, from primary education to higher education, are sometimes called "initial" education, because they occupy the first part of a person's life.

What follows "initial" education? In Britain, universities instituted programmes of "extra-mural" education many decades ago, recognising the need to provide for the adult population beyond their walls. In America, the term "extension" was (and still is) commonly used, as universities took up the challenge to extend their provision beyond the major cities and out into scattered rural communities.

In the 1970's a different term became fashionable: "adult education", carrying with it some further connotations. One was that there should be an *educational discipline* based on research about the teaching of adults and on the training of the teachers of adults. In other words, it was felt that the educating of adults should be given the same status - as an academic subject in its own right - as had for some time been given to the educating of children. (The term "androgogy" is occasionally used to describe it, in distinction from "pedagogy".) It was also recognised that adult education was not a monopoly of the universities, but took place on a large scale through organisations of many other kinds such as employers, local government bodies, churches and the military. In fact only a small proportion of adult education is provided by universities: but the academic "adult education" movement took it that universities should be involved anyway - to "train the trainers" and to carry out research - even though the education referred to might not be at normal university level and the subjects might not be part of any conventional university curriculum.

The "adult education" philosophy implied that there is something rather distinctive about the education of mature people – that methods and skills and techniques are required which are different from those applicable to young people or to mainstream university students. Moreover, it suggested that methodological expertise is as important in a teacher as knowledge of the subject being taught. Method was elevated to the same level as the message.

“Adult education” did not remain a fashionable term everywhere for long. In Britain it was supplanted in the 1980's by the term “continuing education”, referring to any teaching and learning which takes place beyond the initial part of a person's life but

with an increased emphasis on professional and vocational courses. Then, in the early 1990's, the phrase "lifelong learning" came to be widely adopted. These changes in terminology have been related to developments in the policies of educational institutions, local authorities and governments.

The following quotation may be of interest:

"Continental European universities... do not share the role taken by many in Anglo-Saxon systems in making provision for the educational needs of adults who are not registered as students on degree courses. Despite the well-documented interest in many European countries in University Extension at the turn of the last century, most universities in these countries did not develop the provision of liberal adult education traditionally associated with the British universities.... This form of provision was largely rejected as the 'popularisation of science' and hence not a legitimate task of the traditional university. Provision of liberal adult education was developed by the quite distinct 'popular universities' in the form of the *Volksuniversiteit*, *Folkeuniversitet* and *Volkshochschule*, and they have no formal relationships with the universities.

"There are indications, however, that the traditional universities are now hesitantly recognising the demand for continuing professional education and university-level educational provision among non-traditional student groups. Although they have yet to take on 'lifelong learning' as a core task, they are beginning to embrace new areas of activity. "

Hake, Barry J., *The University-Community Interface in Europe: the Case of "Traditional" Universities in the Netherlands*, in: *Communities and their Universities: the Challenge of Lifelong Learning*, eds. Elliot, Jane et al. London: Lawrence & Wishart, 1996, pp. 58-59.

In (say) 200 words, how would you characterise the current developments in the policy or strategy of *either* your employing organisation, *or* your local university, *or* your national government, *or* the European Union towards lifelong learning?

☒ Answer, please, to the tutor

3.1.3 Lifelong learning and formality

It is helpful to be aware that lifelong learning may be categorised in terms of its degree of formality. "Formal" learning is (usually) specified and accredited by an educational institution. "Informal" learning may be a completely informal and autonomous activity on the part of the learner. The intermediate category known as "non-formal" learning is rather interesting, and some comments about it can be seen here:

<http://www.infed.org/biblio/b-nonfor.htm>

3.2 Outreach

“Outreach” is a concept which provides us with a useful way of classifying ideals, objectives and activities in lifelong learning.

Learning is all about the acquisition of information, concepts, skills and attitudes – in the broadest sense, of “knowledge”. Outreach is all about making knowledge more widely available to people. Several different categories of outreach can be considered: we will focus on social, geographical, professional and liberal outreach.

3.2.1 Social outreach

It has long been perceived that social divisions go hand in hand with restricted access to knowledge. In many instances social divisions have been perpetuated by the existence of closed bodies of valuable knowledge which in practice have been inaccessible except to members of certain privileged groups. Today this is considered to be not only morally indefensible but also economically damaging because professional enthusiasm, entrepreneurial initiative, business efficiency, personal mobility and investment are all likely to be stunted unless people are free to learn what they need to know. By “social outreach” we mean the policies, strategies and activities by which educators try to widen participation in learning and thereby to promote economic growth, social mobility and equality.

The precise nature of social exclusion has been investigated extensively in recent years. With reference to the available literature or to your own local experience, do you believe that there is an underclass alienated from education? If so, how would you define that underclass and what are the attitudes which perpetuate it?

Researchers have also grappled with the question of how one might *actively* promote widened participation in education, for example by positive discrimination. Can you give an example (preferably from your own experience or your local situation) of positive discrimination intended to widen participation in lifelong learning? What is the moral case against positive discrimination?

✉ *Please respond to these questions by sending a message to the tutor. You should aim to write about 200 words in total.*

Different kinds of social groups may be involved as the objects of widening participation in lifelong learning:

Economic groups, and particularly those who are financially disadvantaged, are those most commonly in mind when we speak of social outreach. Potentially, internet technology can bring cost savings and thereby facilitate outreach to less well-off learners, including the unemployed and underemployed.

Linguistic minorities are clearly hampered from effective participation if the educational system assumes that they possess language skills in a dominant language which they do not share, or in which they lack fluency or confidence. It is to be expected that this problem will become worse in Europe as mobility improves and economic migration becomes more common. The most obvious remedy is to provide supplementary opportunities for lifelong learning in the required language skills, both for those who have already travelled to a new country and also for potential migrants while they are still within their original country. Another approach, in which the internet could play a valuable part, is to make provision through a person's mother language wherever that person happens to be living. For example a course on EU law could be provided online in Finnish for Finns living in any part of Europe. In such a case, linguistic outreach is also a form of geographical outreach.

It should also be borne in mind that any form of distance learning which relies on text rather than the spoken word will be easier for non-native-speakers to cope with. It may be laborious to work through texts written in an unfamiliar language, but for some people it may be the best way forward.

Going further, automatic text-translating software already makes it feasible in theory for any online course – produced in whatever language – to be taken by students in their own languages. This is hardly a realistic option at the moment because of the imperfections of machine translation, but no doubt it will get easier as time goes by.

Finally, there is one further aspect of linguistic outreach which should be mentioned: even when people are fully capable of participating in education through a mainstream language, they may choose not to do so because of an insistence on what they consider to be a constitutional right to be provided for in a minority language such as Irish or Catalan. Internet technology may have little direct bearing in such cases, but it must be remembered that there may be legal or political forces requiring a provider of online education to respect certain minority languages as a matter of principle.

Take a look at the [Universitat Oberta de Catalunya](#). On the basis of its website, do you feel that it is likely to be effective in promoting the Catalan language?

✉ *Please send a one-sentence reply to the tutor.*

Culturally distinctive groups can present problems of outreach even when there is no associated linguistic barrier. Any educational context entails cultural and social assumptions which may not be applicable to all. Even asking somebody's name is fraught with difficulties: what is your Christian name? Does your family name come first or second? Might I cause offence if I don't bother with an umlaut? Most of these issues arise not only in the context of lifelong learning but are common in intercultural communication generally. Basic attitudes to education itself, and to authority, and to personal discipline, may all vary according to cultural norms. According to their backgrounds, different people will have different perceptions of the nature of the commitment they make when they embark on a course. Assessment systems may need to be designed with sensitivity to how people from different cultural backgrounds are likely to respond to the assessed tasks. Cultural outreach may even involve the radical re-interpretation of a subject.

If a particular cultural group is under-represented in a programme of lifelong learning, it could be because

- The programme is heavily weighted towards subjects which serve the needs of the majority but seem irrelevant to the minority in question;
- The programme is marketed using language and images which do not attract the group;
- The institution providing the programme is not one which would automatically be respected by the group; or
- The institution providing the programme is over-respected by the group and consequently they are overawed and hold back.

The above list is not meant to be exhaustive, and you may well be able to think of additional reasons for the under-representation of cultural groups.

Religious groups may have distinctive educational requirements which ought to be taken into account in the planning of educational outreach. The rhythm of work must allow for different religious calendars. Particular religious groups may be alienated by careless language or by the assumptions that some academics may make, such as the assumption that the Reformation was a good thing or that premarital sex is not a bad thing.

Besides making mainstream lifelong learning in all disciplines generally acceptable to those with diverse religious commitments, religious outreach may also include the much more focused work of providing continuing religious education for the members of specific faith communities.

Disabled learners are another group - or, rather, a set of disparate groups each with its own requirements - for whom internet-based courses may provide important opportunities. There are two sides to this: (a) online learning may of itself be more accessible to some disabled people than conventional face-to-face courses would be, and (b) special information and communication technology, going beyond what is normally available provided for non-disabled participants, may facilitate outreach to particular categories of disabled learners. In particular, "assistive technology" can make electronic communication much easier for people with specific learning disabilities, severe visual impairment, or a physical inability to write or to use a keyboard.

Read the information about assistive technology that can be found on this useful Canadian site:

[Assistive Technology for CAP Sites](#)

Introduce yourself to the European resources shown here:

[Association for the Advancement of Assistive Technology in Europe](#)

3.2.2 Geographical outreach

In a sense this whole course is about geographical outreach, because lifelong learning at a distance is now an obvious application for internet technology. The "globalisation" phenomenon is discussed at greater length elsewhere in this course. However, we will focus here on initiatives which began a few years ago in England which exemplify how learning opportunities can be provided specifically for the benefit of dispersed rural communities.

In the county of Suffolk, which lacks a conventional university and does not contain any major city, an attempt was made to set up a "televersity" to serve the local community. Some information about it can be found from this website about a

Televersity for Suffolk

See also the

CoVETS Project Archive

On the other side of the country, the University of Plymouth hosted a project known as RATIO. Some information about it appears under "Research" on this rather interesting website:

Distance Learning through Telematics

A more detailed analysis of the outcome appears here:

Somerset Online

(See particularly the section 4.2.1, numbered 5.2 in the contents list.) It is not easy to explore this information and reach general conclusions about the success of rural outreach as evidenced by the outcomes of these projects. However, it is possible to conclude that there was no conspicuous or lasting success.

1. Starting from the websites referred to, form a view on whether the projects described in Suffolk and in Somerset
 - (a) were useful as research, and
 - (b) demonstrated viable forms of online lifelong learning.
2. If similar work were to be started afresh today, do you think the outcomes might be different?
3. See if you can find any information about projects of a similar sort in another part of Europe.

☒ *This activity is not compulsory and will not be assessed. However, the tutor will be very interested in your findings.*

3.2.3 Professional/vocational outreach

A large proportion of lifelong learning - in fact, the majority - consists of courses provided for the members (or would-be members) of specific professional or vocational groups. The distinction between "vocational" and "professional" need not concern us, as long as the terminology does not cause confusion - vocational education or training is sometimes considered to be at a lower academic level and to have a lower social status, and the word "training" may imply non-intellectual skills. Professional education, on the other hand, may refer to traditionally restricted fields such as medicine and the law. However, these distinctions are often regarded today as outmoded and counter-productive, bearing no relation to the task of developing human resources in all areas of the economy. The world of work has moved on far from the days when an educational and social élite was confidently established in possession of the most lucrative and respectable professions.

Lifelong learning means, among other things, that people who have not entered a particular profession (accountancy, say) at the culmination of their initial education should not be prevented from doing so at a later stage in life. It opens up the possibility of a much more fluid and open system of professional qualification. Moreover, even within a specific profession, old skills may become useless and new skills become essential with dizzying speed. Lifelong learning therefore has an important part to play in a rapidly-changing economic landscape where employers' needs and workers' skills are constantly altering.

Lifelong learning may be needed so that the learner can undertake or retain a particular role in the workplace. A good system of training benefits the economy and the employer, and may obviously benefit the employee by opening up the possibility of better-paid or more prestigious work, or greater job mobility. However, professional or vocational education is not primarily intended to give intellectual satisfaction to the learner or to provide avenues for purely personal fulfilment.

Internet technology is affecting vocational and professional continuing education in (at least!) the following ways:

- virtual learning environments (VLEs), computer-managed learning (CML) and online resources are radically altering the scope and style of provision in all subjects, even when it is not applied in distance-learning mode;
- distance learning is taking on a new character and is becoming attractive and economically viable in circumstances where previously it was not widely used;
- internet technology itself is a subject now in high demand, with technical skills being needed across the economy; and
- internet technology is leading to a redefinition of what it means to belong to a professional community.

The last of these is particularly interesting. It has always been the case that a good deal of professional lifelong learning has taken place non-formally or informally through professional communities or networks. Not only do professional communities act as a

conduit for learning, but they can perform key functions in the *creation* of new knowledge and in collective decision-making about what are to be the new skills and knowledge-domains that will be expected of the community's members in the future. The essence of a professional community, in what is sometimes referred to as the incipient "knowledge society", is that the community itself (and not some external educational profession) is the matrix within which the necessary lifelong learning is determined and provided. This sort of matrix is sometimes referred to as a "community of practice", the title of a seminal book by Étienne Wenger.



Wenger, É., *Communities of Practice: learning, meaning and identity*, Cambridge University Press, New York, 1998.

This book has become unusually well known in the field of lifelong learning, and it is recommended that you should acquaint yourself with it.

So, how is the concept of a professional "community of practice" modified by internet technology? The answer is obvious: a professional community today can be

- global in its geographical scope,
- instantaneous in communication, and
- more widely accessible (in terms of the cost and convenience of access)

This is exactly what has happened in many fields. Until a few years ago, academic scientific communities were international but very few other professions were. Now, many professions have become effectively internationalised. The implications are profound: an international profession calls for organisation and regulation of a new kind. International mobility is facilitated, both on the part of individual workers and on the part of companies. This process is *facilitated* by internet-based outreach, and at the same time process creates a *demand* for yet more learning resources as the structure and practice of a profession undergoes rapid change.

So, we should not be surprised that lifelong learning - made more efficient and rendered borderless by internet technology - is perceived to be a key element in Europe's economic and social development over the coming decades.

You may find this paper interesting:

Barry Hake, ***Fragility of the "Employability Agenda": flexible life courses and the reconfiguration of lifelong learning, 2003:***

✉ Send a brief comment, if you wish, to the tutor. This is not an assessed activity.

3.2.4 Liberal outreach

Liberal outreach (or "Liberal Adult Education") may be regarded as the opposite of professional or vocational outreach. Instead of being related to employment and to economic well-being, it is to do with the learner's personal and cultural development. It depends on the idea that education is a form of personal liberation, and that access to knowledge is a human right.

This is an extremely important and powerful idea. Knowledge itself is regarded as our common patrimony, a shared human property, and not as something to be limited and traded. Knowledge, therefore, should be made freely available to all. Moreover, free access to knowledge should not be restricted to certain domains of knowledge selected by the educational system: the learners themselves should be free to select the subjects they want to learn about.

Liberal outreach, then, is an opening up of educational resources - whether or not we think they are of any professional or economic relevance - so that they are widely and freely available to as many people as possible.



Liberal ideals have been central to the ethos of university education in Europe. See, for example, the ideals expressed in *The Idea of a University* by Karl Jaspers. For an excellent concise account of Jaspers' (and others') thinking, see:

Wyatt, John, *Commitment to Higher Education: Seven West European Thinkers on the Essence of the University: Max Horkheimer, Karl Jaspers, F. R. Leavis, J. H. Newman, José Ortega y Gasset, Paul Tillich, Miguel de Unamuno*. Buckingham: SRHE and Open University Press, 1990.

Of course, liberal outreach is an ethos and an ideal to be striven for, and not a realistically-attainable objective. In an ideal world, people living in Paris could study Welsh and people living in Glamorgan could study Spanish literature if they so wished. People might want to know about modern cosmology, genetic engineering and rainforest ecology. But, in the real world, educational institutions have limited resources and choices have to be made on the basis of perceived demand. It is quite impossible for all possible subjects to be made available and accessible to all would-be learners. But the principle remains: to allow as many people as possible to learn whatever *they* consider to be the most significant subjects for themselves.

An important facet of liberal outreach is that educational institutions should not merely provide access to knowledge, but should provide access to the most *up-to-date* and *reliable* forms of knowledge that are available *at the time*. It would be a betrayal to provide out-of-date information, or to present a subject in a way which did not reflect contemporary approaches and debates among the scholars who lead the subject today. It is an educational institution's job to build bridges between communities of learners and communities of scholars, and selecting the latter requires care and discernment. The paradox is that we should not set ourselves up as authorisers or censors of knowledge, but neither should we expose vulnerable learners to teachers whose views may be idiosyncratic or biased or just plain wrong. And this is not just a theoretical paradox: it is a practical problem for directors of lifelong learning programmes who may be asked to support (for example) a course on a dubious area of fringe medicine. Needless to say, the problem is magnified on the internet, where there are innumerable websites promoting ideas which, to put it mildly, are academically unrespectable.

Historically, universal education leading to near-universal literacy, linked with the availability of cheap books (or freely-available books through the public library system) amounted to a powerful and pervasive form of liberal outreach which was effective even under regimes which tried to impose strict censorship over the printed word. We should be conscious of the fact that liberal outreach education has often been closely allied with particular political and social philosophies. After all, the idea that access to knowledge is a universal human right is, itself, an opinion rooted in certain political and religious traditions. In some countries, liberal adult education is a tradition closely allied to the emancipation of the working classes and, therefore, with left-wing politics. There is always a danger that the ethos of liberal outreach could become heavily influenced by a particular political group, to such an extent that it becomes illiberal and biased.

Today, of course, the internet has emerged as a powerful liberating technology. It is a medium which can facilitate liberal outreach in many different ways, and particularly by enormously broadening the range of options open to learners. There is hardly any subject so specialised or abstruse that one would be unable to find, somewhere, internet-based learning resources on it.

Take a look at these papers:

Esther Dyson, George Gilder, George Keyworth, and Alvin Toffler, ***Cyberspace and the American Dream: A Magna Carta for the Knowledge Age***

Roger Clarke, ***Freedom of Information? The Internet as Harbinger of the New Dark Ages***

☒ *Send a brief comment, please, to the tutor.*

Summary:

- *We have examined definitions of "lifelong learning" as a philosophy, as an educational policy objective, and as a set of professional practices.*
- *You should be familiar with the concept of "outreach" and understand the distinctions between different kinds of outreach (such as geographical, linguistic, and liberal outreach).*
- *You should appreciate the current debates surrounding lifelong learning and outreach.*

4. E-learning Strategies

Learning objectives for this section:

- *To understand the meaning of "e-learning" and the different forms that it can take.*
- *To appreciate the range of electronic technologies which are available to support e-learning.*
- *To explore a number of e-learning systems and experience a variety of online environments.*
- *To distinguish between e-learning platforms, online learning communities, and online learning resources.*
- *To examine how internet technology has led to a globalisation of the e-learning industry.*
- *To begin to think strategically about the future development of e-learning in your own professional context.*

In this section of the course we take a close look at some of the technical options and possibilities for the implementation of e-learning. First, we need to consider some different approaches to e-learning and the relationships between them: for example, the different approaches represented by the phrases Computer-Based Training (CBT) and Virtual Learning Environments (VLEs). Then, we turn to specific kinds of e-learning systems. After a glance at systems based simply on email and on web pages, we come to what is arguably the most important part of this whole course - a study of sophisticated e-learning systems designed to provide a comprehensive range of functions for the teacher and the learner. Then we will look briefly into two other aspects of e-learning (online communities and online academic resources) before completing this section with an account of the evolution and "globalisation" of the e-learning industry.

Of necessity, this section of the course relies heavily on references to the external websites where all the different technical possibilities are explained in detail. Since the range of options is evolving quickly all the time, much of the material presented here is ephemeral and will become obsolete sooner or later. You need to be aware that professional expertise in e-learning needs to be constantly refreshed: this course can bring you (almost!) up to date, but to remain in touch requires an effort of continuing professional re-education.

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	4.2	E-learning systems
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	4.4	Online resources
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4.1 Internet technology for learning

4.1.1 What do we mean by e-learning?

E-learning is not quite the same as distance learning, because distance learning is an activity with a long history supported by a large range of other non-internet technologies over the years.



To read about other forms of distance learning, including the media used for "traditional" distance learning, you could look at:

Melton, Reginald L., *Planning and Developing Open and Distance Learning*, RoutledgeFalmer, London, 2002.

E-learning is, for all intents and purposes, internet-mediated learning. The technology can in principle allow learners to:

- enrol for a course
- read course materials
- receive video or audio clips
- read linked online resources
- exchange messages with a tutor
- engage in group discussions
- use webcams for videoconferencing
- write essays, reviews, or other work of their own
- submit written work for assessment
- answer online questions and quizzes
- receive feedback about their work
- be informed of their grades
- evaluate the course through an online questionnaire

and other things as well. When there are several students, they may work in *parallel* with the same timetable; but alternatively they may work independently with a *flexible* timetable. Intercommunication between students and staff, or among students, may be *synchronous* (all participants communicating at the same time, with the possibility of instant responses) or alternatively it may be *asynchronous* (people logging in at their own convenience to see what messages have arrived for them).

Internet-based resources are still time-consuming and therefore expensive to produce and to test, and they require a continuing effort of maintenance. A good deal of staff time is required for certain aspects of the process (in particular, providing personal feedback to individual learners), but the same is true of any high-quality course using any medium. E-learning involves special problems of activity and motivation, because

it is unlikely to be effective if it is a purely passive activity on the learner's part or if the learner's morale is not maintained by a high quality of personal intercommunication.

For an interesting perspective on e-learning, take a look at the website provided by the Maricopa Center for Learning & Instruction):

<http://www.mcli.dist.maricopa.edu/tl/>

4.1.2 The right tool for the job?

How, exactly, should we use the internet to support lifelong learning? This is problematic because lifelong learning is, of course, only a part of the whole educational system. In most universities, for example, the traditional teaching of young, local, full-time students is still the dominant activity and no doubt will continue to be so. Traditional teaching is not, however, as traditional as it was: in fact it is itself being transformed by internet technology. Virtual learning environments (VLEs) and managed learning environments (MLEs) have already become common across universities and other institutions of higher education. This has led to the situation that some of the best-known and most widely-used software for learning has been produced to meet the mass market of conventional university faculties, while far less effort has been put into the development of software specifically for lifelong learning. Consequently, a good deal of distance learning and lifelong learning is actually being provided through software which was provided to support mainstream university teaching and which is far from optimal in the context of lifelong learning.

The situation is a bit like that with cars and taxis. Passenger cars are designed and sold generally with a certain market in mind, namely individuals who will use their cars for private domestic purposes and occasionally for work-related travel. But if you want to be a taxi-driver, that sort of car is not ideal. So what is done? To avoid the cost of producing a special kind of car for use as a taxi, ordinary cars are used (except in London!) with just a few minor modifications. It is not a perfect solution, but it is the most economical and most passengers don't mind. On the other hand, that sort of compromise cannot be applied when a farmer wants a tractor. It would be quite impractical to modify a car to do the job of a tractor. Instead, tractors are specially designed and manufactured, and the agricultural industry is obliged to bear the cost.

An ordinary university VLE is a bit like the passenger car. When such a system is used to support lifelong learning, it is like the taxi-driver making do with an ordinary car. But lifelong learning is not the same as ordinary university education, and ideally it should be delivered through software designed specially for the purpose - the farmer's tractor.

Providers of online lifelong learning are faced, therefore, with a dilemma - should they use a readily available but not quite appropriate VLE? This is a tempting solution, especially if their institution is a university which already possesses such a VLE and if the staff have already become accustomed to it. Or should they try to acquire or produce software more suitable for lifelong learning?

We may distinguish between three different kinds of e-learning systems:

1. A Virtual Learning Environment (VLE) in a conventional initial-education context, supporting students and teachers whose interactions are mostly of a traditional face-to-face kind. Such a VLE may provide online information and the online management of functions such as the submission of coursework, but it is not distance learning, and neither is it "lifelong learning" except in the sense that some of the course participants may happen to be more mature than others.
2. A system used in a lifelong learning *but not distance learning* context. Providers of professional training, for example, may provide substantial online resources (for which CBT may be the most apt term) although learners and teachers may continue to meet personally for many aspects of their work.
3. True distance learning, where the electronic system is the dominant medium of communication and the physical location of the learner is more or less irrelevant.

The distinction in the box above is a crucial one if misunderstanding is to be avoided. Phrases like "e-learning" and "online learning" are often used rather confusingly to describe all three. But category 1 above is not usually lifelong learning, and category 2 is not usually distance learning. In this course we are concerned particularly with category 3, and in what follows we will explore a number of the possible software solutions.

4.2 E-learning systems

4.2.1 Introduction

You should be prepared to devote some considerable time to this part of the course. There is a bewildering array of e-learning systems of different types, and some of them are technically difficult to implement. You are not expected to learn everything about every system mentioned here - that would be impossible - but you should gain an overall familiarity with the current scene and you should be prepared to investigate a few systems in depth. Ideally, you should make yourself an accomplished user of at least one system, but this will depend on your professional situation.

We approach this topic by looking first at email and then at how learning can be supported by good websites before we turn to "real" e-learning systems. We look at a number of proprietary systems (which are not generally free to use) and then at a number of open-source systems which are free (in some cases, because they have been developed for the public good through EU-funded projects).

The work that you do in this part of the course will be determined, to a large extent, by whether or not you are employed and, if so, if you are authorised to use any particular proprietary e-learning system. For example, your workplace may be site-licensed to use something like *Blackboard*, or there may be an institutional policy to use only a system like such as *Moodle*. Please inform the tutor accordingly.

✉ *Send your reply to the tutor.*

4.2.2 Email

Simple email can obviously be used as a component of any programme of distance learning. In fact, it would nowadays be rather perverse to avoid email in favour of traditional "snail" mail. Using attachments to send data of all kinds, email can provide a high level of support to the learner and can simplify enormously many of the routine administrative aspects of the teacher's job - if only because email automatically provides an electronic record of all the interactions that have taken place and allows material to be securely filed.

However, email *by itself* is not usually considered appropriate to formal lifelong learning, any more than it is appropriate in any business or professional context where the quality and security of communication are important. Practical problems can arise if learners (let alone teachers) fail to keep the contents of their mailboxes within their permitted limits, or if they wish to change their email addresses, or if they are in the habit of using more than one address.

Nevertheless, it is possible to construct a sophisticated e-learning system on the basis of email alone: this is the idea behind a system known as *Colloquia*:

Take a careful look at [colloquia](#)

What would you say is the greatest advantage of the Colloquia system? And its major disadvantage?

✉ *Send your replies to the tutor.*

4.2.3 Constructing websites

For anybody prepared to make a modest investment of time, it is not difficult to produce a basic website to support learners and provide information to them. The language HTML (Hypertext Markup Language) is the basic tool for this, and we have already referred to an online course on HTML elsewhere in this course

However, websites today are often vivid multimedia productions and they can be highly interactive. To provide the sort of facilities which are often expected by sophisticated users, a high level of skill is needed and the producer of the website may have to master several supplementary software technologies or languages. For example, the *Dreamweaver* system (by *Macromedia*) makes it possible to produce, upload and manage a complex website through a graphical interface without having to learn a language. However, it is fair to say that considerable skill and experience are required to use *Dreamweaver* (or any of its competitors) to the full.

Beyond simple HTML, for the website creator who does not choose to go down the *Dreamweaver* road, languages like JavaScript and PHP make it possible to produce powerful interactive websites. The internet contains an enormous amount of information about JavaScript, including this example of an online tutorial about it:

<http://www.webteacher.com/javascript/>

PHP is a language which has arisen more recently and is now becoming extremely popular: information about it can be seen here:

<http://www.php.net/>

It is not necessary for you personally to learn JavaScript or PHP, or any other language; but you will have a much better understanding of e-learning platforms in general if you have at least dabbled in languages like this. Some of the sophisticated e-learning platforms mentioned elsewhere in this course are simply very large programs written by teams of professional programmers in languages like PHP.

(Incidentally, you should be aware that JavaScript is not the same as Java. Java is a still more powerful language and it has been used to produce some of the leading e-learning systems described later in this section of the course. However, Java is not appropriate for simply producing web pages.)

An important point is that anybody producing a web page can obtain a variety of different facilities from external sources; see:

Externally-Hosted Web Services

So you don't have to reinvent the wheel.

However, even a sophisticated website will not *by itself* provide the level of support and the range of facilities that can be got from a modern all-singing-all-dancing e-learning system. Websites are very helpful for informal learning, and to support communities of learners in a "non-formal" way, but by themselves they normally fall short of what an

institution will need to provide for formal distance learning. It is to more sophisticated e-learning systems that we turn in the following subsections.

4.2.4 Proprietary systems

Some large institutions, including some leading universities, have developed their own proprietary e-learning systems available only for their own staff and students. For example, the University of California at Berkeley has a system which you may sample here:

UC Berkeley Extension

However, there are many proprietary systems which are commercially available to any institution. One of the best-known and most widely-used is *Blackboard*, and it is well worth while familiarising yourself with it through the information available here:

Blackboard

The main drawback with Blackboard is that it is used most frequently to support ordinary full-time students, and not for distance learning or lifelong learning. It is an nevertheless an extremely powerful tool in a distance learning or lifelong learning context: but you may find that it is not quite the best "tool for the job" as far as your professional circumstances are concerned. Another prominent product is WebCT:

WebCT

Although WebCT is similar in many respects to Blackboard, there are also some important differences between them. Take this opportunity to familiarise yourself with WebCT if (but only if) you know that you are likely to have to use it in your professional role.

Yet another widely-used system, with its own distinctive "feel", is Jenzabar:

Jenzabar

One could go on and on. A good list of e-learning systems is provided here:

Courseware Tools (AEDC)

and yet another list is here:

Edutools

Do take the time to examine these lists in details: it is vital that you should gain an overall understanding of what they contain, even if you do not explore the technical details of any particular system. Another very interesting source of information is a well-known website provided by Bob Jensen. It is not a just simple list, but it is a long and (you might think) rather rambling compilation of data and reflection which has been built over many years. It rewards close study:

Jensen's list

The links following will connect you to a range of other e-learning systems and resources. Look through them, and take sufficient time to understand exactly what is available and to form critical judgements about them.

SumTotal

Cognitive Arts

Digital Think

SkillSoft

Saba

GFN

Time4You

Ibis

Teia

Fase

Aula Optima

Click&Learn

It cannot be overemphasised that you should spend a good deal of time in looking carefully through the above sites in order to understand what they are doing, what their educational and financial philosophies are, whom they serve, and how technologically sophisticated they are.

In consultation with the tutor, you will be asked to undertake an assignment based on your study of proprietary e-learning systems. For example, you might be asked to compare and contrast the facilities offered by WebCT with those offered by SumTotal, or to present an overall assessment of the effectiveness of e-learning today.

✉ *Consult the tutor.*

4.2.5 Open-source systems

The e-learning systems mentioned earlier are not freely available for use: they are commercial products, or they are provided only for the staff and students of particular institutions. However, there is another group of copyright-free systems which are made available without charge: these are *open-source* systems. In some cases they were originally developed as a result of grants by public bodies (such as the European Union) and they are now maintained and developed by user communities.

A good place to start is with this system:

Manhattan

Manhattan is an American system, and is written in the programming language C. It has many good features, and is easy to implement on most computer systems. However, many people would prefer to become involved in AulaNet, using the Java programming language:

AulaNet

Although the AulaNet community is primarily Portuguese-speaking (from Brazil), there are Spanish and English versions of the documentation.

Arguably the most appealing recent developments have been those using the PHP programming language. One of these is the Australian system *Moodle*:

Moodle

European educators may be more attracted to the *Uni Open Platform (UOP)* developed at the University of Hagen, or to *the ILIAS* system from the University of Cologne, or to the *Claroline* system originally produced by Thomas De Praetere at the Catholic University of Louvain. They are based on PHP:

Uni Open Platform

IlIAS

Claroline

Claroline is an excellent example of an e-learning system around which there has formed a large international user group. The *Claroline* interface has now been translated into about 20 languages. It is not the purpose of this course to recommend any particular e-learning system, but *Claroline* certainly has a lot to recommend it for European institutions which do not have the financial resources to obtain a commercially-supplied system. The *Moodle* system also has many advantages, including the fact that it is now available pre-installed through several web-hosting companies such as [L40.net](#) and [Optic5](#) - so any teacher can immediately start to provide internet-based distance education without having to rely on an employer for technical support.

The programming languages mentioned above - C, Java and PHP - are relevant to installers and advanced users of these systems but it must be emphasised that they will be invisible and irrelevant to the average teacher or learner. The whole point, after all, is that these systems should be easy to use for people who have no special knowledge of information technology or programming.

4.2.6 A tentative conclusion

A large number of different e-learning systems are now in use, and we have looked at a number of them already in this section of the course. The diversity of systems (or "platforms") raises the question of whether it is possible to transfer the *content* of an internet-mediated course from one platform to another. Is it easy to transfer content from, say, *Blackboard* to *Moodle*? To facilitate such transferability, allowing learning material to be implemented easily on a variety of different systems, efforts have been made to define standards for the format in which e-learning material should be produced. In particular, "SCORM" has been the focus of a good deal of research to improve the portability of material.. For more information, see:

SCORM

Another line of research, using the concept of "Educational Modelling Languages", has been led by the Dutch Open University: see

Educational Modelling Language

You should also be aware of the IMS Global Learning Consortium:

IMS

However, it is beyond the scope of this course to examine this line of research in any detail. It is sufficient for you to be aware that there is a community of researchers dedicated to making life easier for educators by promoting standards. The hope is that SCORM (or other standards) will cut through the bewildering range of different ways in which material must at the moment be produced and uploaded into different e-learning systems.

Unfortunately, there is no immediate prospect of success. (This is a controversial assertion!) In fact, it is possible that no standard will become widely accepted within the foreseeable future. For a long time to come, learners and teachers will have to commit themselves to specific e-learning platforms whatever foibles they may have. You may have no choice about which system you use (because the choice may be made for you by your institution) but, if you have the option, the best way forward may be to join the user community of one of the leading open-source systems - *Claroline*, say, or *AulaNet*, or one of the others.

4.3 Online communities

A lot of attention has been paid in this course to e-learning systems - platforms which can carry out a range of different educational functions. Such systems are designed primarily for *formal* education, where students enrol for a course, take part in prescribed activities, and have their learning assessed. However, the internet is also used to support *non-formal* education, in the form of loose communities of learners who may not be following a structured "course" but who intercommunicate in order to build up their collective knowledge. Groups of learners based on the internet are a special kind of "online community".

Online communities are often inspired by a "constructivist" philosophy of knowledge. Crudely speaking, constructivism assumes that learning is a process by which meaning is constructed out of reflection on personal experience and communication with others. Online learning communities are generally democratic and egalitarian in spirit, and are not led intellectually by any designated guru. There is no curriculum, and although a learning community may have broad collective aims, members will not (usually) be expected to achieve specific objectives.

Learning communities are just one type of online community - other communities are drawn together not by an educational aim but by something else, such as (for example) a shared ethnic tradition. This paper is an example of some of the scholarly work that has been done on online communities:

Community Bonding on the Net

This paper considers professional communities:

Professional Communities

A large number of online learning communities work simply through the exchange of email messages: take a close look at the academic communities hosted by jiscmail:

JISCmail

and at this wider international list of lists:

LISTSERV lists

It is important to appreciate the sheer scale of all this: through lists like these, the internet is host to an enormous amount of *non-formal* learning, dwarfing the *formal* learning provided through structured online courses. And online communities support highly specialised groups - such as the Australian avocado growers!

But, moving beyond email lists, there is more sophisticated software capable of supporting learning communities in other ways. For example, the *Colloquia* system, which has already been looked at in this course, may be regarded not as a formal e-learning system but, alternatively, as a system to support non-formal group working and group learning. Another interesting system is BSCW, which is no longer new but has the advantage of good support from European institutions and offers a free hosting

facility, so that the community wishing to use it does not have to find a server to host the software and the website.

BSCW is written in the programming language Python (although this fact will be irrelevant to most users) and so is the newer system known as Fle3 ("Future Learning Environment). Fle3 was also developed as a result of a European initiative, and is freely-available open-source software. Take a look at it here:

Fle3

Another open-source web-based collaborative learning and groupwork environment is *mimerdesk*, written in the Perl programming language: for details look here:

Dicole

Finally, it is worth taking a look at the "PHP Bulletin Board" system of which details can be seen here:

phpBB

All these systems (and many others not mentioned here) have their own advantages and disadvantages. For the present-day European user looking for such software, *Fle3* is probably the first system to consider.



The following book is well worth consulting:

McConnell, D., *Implementing Computer-Supported Cooperative Learning* (2nd. ed.), Kogan Page, London, 2000.

4.4 Online resources

Apart from the sort of software we have considered so far, and apart from subject material that is custom-produced by a teacher, the internet now provides access to a bewilderingly wide array of online publications of all kinds. Online resources are vital, but they present a rapidly-changing landscape which is almost uncontrollable on the part of the teacher. Restrictions on access (for example, to online journals which require subscriptions) are a continuing problem.

Online resources are dealt with fully in other courses within the DEALL programme. For the moment, we simply point out that the appropriate use of external online resources should, as a rule, be integral to any implementation of e-learning. There are useful internet resources to guide the teacher and learner to find the right resources: to

take one example, the ArXiv site (<http://arxiv.org/>) which forms a gateway to online publications in physics, mathematics and computer science.

Online resources sometimes raise legal questions. Some information which may be useful is provided here:

Data Protection and the Law (see appendix 2)

Copyright Law and Electronic Access to Information

Copyright Contradictions in Scholarly Publishing

Intellectual Property and Security (see appendix 3)

This information should make it clear to you that issues to do with copyright, data protection and freedom of information are important and are far from trivial. The situation is made more complex by the legal and regulatory differences between countries.

4.5 Globalisation and the e-Learning Industry

It hardly needs to be said that the internet has revolutionised distance learning. Learning opportunities can be provided for people scattered around the world. Outreach can be global. We are moving into an age of "borderless" higher education and professional education.

Nevertheless, there are still serious barriers and constraints to the globalisation of e-learning. In particular:

- Language: for effective learning at a high level, it is insufficient to have just a superficial grasp of the language of instruction. A very good understanding is needed to tackle subtle arguments in (say) politics or philosophy or literature. In English, which is the most common language of instruction, it very often happens that students, and sometimes teachers as well, lack the fluency to express complex ideas clearly.
- Fees have to be charged by most providers. Although most countries subsidise the education of their citizens, they are generally unwilling to subsidise the citizens of other countries. And fees which seem affordable in developed countries may still be beyond the reach of all but the financial elite in poorer countries.
- Professional working environments differ from one country to another, and a professional qualification awarded by an institution in one country may not be useful and (even if it is useful) it may not be recognised in another.

- Educational material invariably carries with it culturally-specific assumptions. Even in a subject which is apparently culture-neutral (such as chemistry or mathematics) the presentation of the subject will entail ideas about the history and purpose of the subject, why students will want to learn it, what prior knowledge a student can be expected to have, and what sort of symbolism is appropriate to represent chemical reactions, mathematical operations (what does "QED" mean?), or whatever abstractions the subject may involve. In subjects such as accountancy and theology, the problem of the cultural context is even more obvious. People will not want to study courses which don't seem to have been written for them.
- Internet access may be commonplace in the developed world, and it may be available already to hundreds of millions of people even in less-developed parts of the world, but at the same time it is unavailable to billions. And, even when internet access exists, the quality and reliability of the connection may be far less than an individual needs to pursue a serious course of study through the internet.

Moreover, not all educational institutions have found it easy to provide lifelong learning on a global basis in ways which are educationally and financially effective and in tune with their ideals. In fact, the global e-learning industry is in a state of some confusion. Many leading universities, and respectable professional institutions, have serious doubts about whether, and how, they should move into the global e-learning business. It would be fair to say that there has been a lot of disappointment so far: institutions have found it more difficult than they expected to enter the global e-learning market, and, having entered it, many have found that students are not attracted unless considerable effort is put into the marketing of courses.

Nevertheless, distance learning has been transformed and globalised as a consequence of the internet: take a careful look at the following sites to see the range of formal courses available:

iCDL

WorldWideLearn

but note the strong preponderance of courses in the English-language (is this the reality of the situation, or is it a bias in the compilation of the lists?)

In Europe, there have been number of important initiatives to promote borderless lifelong learning. The **Electronic Training Village** is an example of international collaboration in professional and vocational training. There is a well-established association of the European universities which perceive themselves as being specially committed to distance teaching (**EADTU**). Apart from long-standing distance-teaching institutions such as the British Open University, new institutions are emerging such as the **Donau e-Campus**

This section would not be complete without at least a brief glance at some of the remarkable developments in North America and Australia. In the United States, a number of new "universities" have emerged based largely or entirely on internet-based

learning. **Capella University** is a good example. **Unext** is an example of a commercial institution which works in close partnership with a number of conventional universities. **Fathom** is a very interesting case where a consortium of institutions has placed a large archive of free learning material on the web. The **World Lecture Hall** is another nice example. It is well known that **MIT** has made a good deal of its courseware freely available: but making courseware available over the web is not the same as providing assessed online courses under the personal guidance of a tutor.

In Canada, the country's well-established distance-learning university at **Athabasca** provides its courses via the internet. In Australia, the **University of Southern Queensland** is an excellent example of a conventional university which has gone a very long way down the road of exploiting the global market for distance learning.

All these examples differ from one another in important ways - there is not yet any standard paradigm for the organisation of a global distance-learning institution.

Finally, you may like to take a glance at the article about global universities:

Global Universities: sowing the seeds of the future, or hanging on to the past?

4.5.4 A glance forward

We end this section with a forward look - a view of how lifelong learning is likely to evolve further over the next few years in the context of internet technology. But this is not a view that will be presented to you, it is a view that you should arrive at in your own mind, and present to the tutor as the final task in this section of the course:

Write a short essay (of about 1000 words) on the likely future of lifelong learning in the context of internet technology. You may draw freely on the examples of progressive practice referred to in this course. You may, if you wish, focus on lifelong learning in the specific context of your own professional and/or national situation.

✉ *Send your work, please, to the [tutor](#).*

Summary:

- *You should have become familiar with the concept of "e-learning" and the large set of educational processes which it can cover.*
- *You should appreciate the roles of email, simple websites, complex e-learning platforms, educational modelling languages, online communities and online learning resources.*
- *We have distinguished between proprietary software and "open-source" software, and considered the differences between the two approaches.*
- *Having examined a number of real-life examples, you should appreciate the educational, technical, and economic factors which must be taken into account when planning new e-learning ventures.*

5. Conclusion

Learning objectives for this section:

- *To reflect on what you have learnt in this module.*
- *To appreciate where you stand, and what should be your way forward, in the professional community of e-learning specialists.*

You have now reached the final section of the DEALL course *Internet Technology and Lifelong Learning*. This section is very short. You are asked to examine just two more websites: this EU site:

The eLearning Initiative of the European Commission

and the site provided by the European Distance and E-learning Network:

EDEN

Please explore these sites carefully, identify the information of most immediate relevance to you, and consider how your future professional activities should be related to the European e-learning community.

Contact the tutor to discuss what you feel you have learned from the course and what your future direction is likely to be as a member of the professional e-learning community.

Your tutor will ask you to undertake a final item of assessed coursework drawing together strands from all sections of this course.

✉ *Email the tutor.*

Lastly, we would like you to assist the DEALL team by completing a short online evaluation form about your experience with the *Internet Technology and Lifelong Learning* course.

✉ *For access to the online evaluation form, email the tutor without delay.*

Thank you for your cooperation and participation. It has been a pleasure to provide you with this course.

Summary:

- *You should now be well aware of the status of European-level educational policy development in relation to e-learning and of the key professional institutions involved.*
- *You should have a clear picture of the further academic and/or professional options open to you.*

Appendix 1: Individual Flexibility vs. Group Participation

It might be convenient for an institution to favour flexible study on an individual basis because:

- * content and coursework can be more easily tailored to individual needs
- * the convenience of a completely flexible timetable will be attract more people to join the course
- * there need be no minimum number of participants
- * it is technically simpler not to have to provide facilities for group communication among participants
- * there will be no problems of language or misunderstanding between students
- * the course will be more attractive because people really want to learn from an expert tutor, not from other participants who probably know no more than they do.

On the other hand, it might be preferable to emphasise group participation because:

- * there can be a simpler administrative cycle if participants are handled in groups: a fixed timetable implies a clearly limited course duration and less of an open-ended commitment by the organisation
- * with a fixed starting date there can be easier and perhaps cheaper marketing
- * with an intercommunicating group of students there will be fewer dropouts
- * more group interaction means less need for expensive tutor interaction
- * the course will be more popular with the participants because they will enjoy being in touch with a variety of other learners instead of just one tutor
- * assessment can be more objective (and can be more easily norm-referenced) with a group of participants having a uniform learning experience.

The lists above are intended to be illustrative, not exhaustive, and you may have come up with different but equally valid points.

Appendix 2: Data Protection and the Law

"Data Protection" is all about the proper control and ethical use of information. Information which has been gathered and stored by one person or institution may be of vital concern to another. How are the rights of both parties to be reconciled and safeguarded? The phrase "data protection" is often used when we talk about personal information (for example, your medical records) but there are related issues to do with public information (for example, the information that companies are expected to divulge in their annual reports) for which the phrase "freedom of information" is often used.

This is an extremely important topic because it has to be taken into account by practically all organisations which store information about people. Fortunately, the topic is very well documented and plenty of information is provided through, for example, the links given below.

In the United Kingdom, a key role is played by the [Information Commissioner](#). The legislative framework is provided by the 1998 [Data Protection Act](#): it is a long document, expressed in legal language, but you may like to look through it. In any case, take a look at "[the data protection act made easy](#)". It is important to understand the [The Data Protection Register](#).

Data protection is not just a matter of British law: it is required at European level (see, for example, [this information](#) from the EU. An example of legislation passed elsewhere in Europe is the Dutch [Personal Data Protection Act](#) (here translated into English).

Freedom of Information has been the subject of a long-running campaign (in particular, the [Campaign for Freedom of Information](#)) and has been covered by recent legislation, i.e. the [Freedom of Information Act 2000](#). The Lord Chancellor's Department provides plenty of information about the Freedom of Information Act [here](#). The law for Scotland is separate: if you are interested, you can see the Scottish Freedom of Information Act [here](#). It is also worth being aware of the US [Freedom of Information Act](#).

In conclusion: whatever sort of organisation you work for, and in whatever country, you may need to be aware of the rules governing data protection and freedom of information. This is a quite separate matter from issues of copyright or intellectual property

Appendix 3: Intellectual Property and Security

The internet has raised some huge issues about intellectual property rights. The issues are relevant not only to people in the entertainment or publishing industries, and not only to members of the public who like to download music or copy DVDs for free, but to any organisation which wants to use images, music, or quotations on its website - and to any organisation which invests in a creatively-designed internet presence, and wants to protect its investment.

Fortunately, the internet provides us with lots of resources for learning about intellectual property rights. Here is a nice site about [intellectual property](#) in general. A slightly easier-to-read piece about intellectual property on the web is given [here](#). A useful survey of the issues is given [here](#).

Here are a couple of recent news reports which illustrate the problems: one involving [AOL and music piracy](#), and another about legal action preventing online discussion of how [computer games can be copied](#).

The Microsoft/Intel strategy is extremely interesting: read about [Palladium](#) and "TCPS" (the Trusted Computing Platform Alliance).

Finally, here is a very [nice site](#) with lots of interesting information and links and news about the issues. When you are looking at the sites referred to above, remember that the law in the US is generally different from that in the UK or other countries.